

61662

REPORT

INFORMATION REPORT

CD NO.

PLACE
ACQUIRED

DATE OF
INFO.

NO. OF ENCLS.
(LISTED BELOW)

SUPPLEMENT TO
REPORT NO.

THIS IS UNEVALUATED INFORMATION

STATE		#1	NAVY	#2	NSRB	DISTRIBUTION			
ARMY		#3	AIR	#4	FBI				

CLASSIFICATION		SECRET		DISTRIBUTION			
#1	NAVY	#2	NSRB	#3	AIR	#4	FBI

25 YEAR
RE-REVIEW

Therefore, only those hydrocarbons remaining after distillation could be used for heating oil, especially the by-products of acid and alkaline refining and distillation residues. The heating oil produced by various plants differed; in those factories which produced relatively high amounts of Diesel fuel, however, the heating oil product could not be improved without lessening the quantity of Diesel fuel. A lowering of the Diesel fuel production total could not at the moment be tolerated because of the serious fuel supply situation.

4. The producing plants had been asked to give data on the heating oils they produce. The details presented follow:

Leban

	<u>Normal Heating Oil</u>	<u>Heating Oil Distillate</u>	<u>Heating Oil Containing Paraffin</u>
Specific Gravity at 35° C	0.940 - 1.05	0.950 - 0.965	0.93 - 0.95
Flash Point	35 - 110° C	110 - 135° C	170 - 190° C
Freezing Point	20 - 25° C	25 - 32° C	30 - 35° C
Viscosity	at 50° C, 2.0-4.0 Engler	at 50° C, 1.5-2.5 Engler	at 100° C, 1.5-2.5 Engler
Water Content	0.5 - 2%	0.5 - 1.5%	under 1%
Minimum Caloric Value	8,600	9,000	9,400
Creosote Content	70 - 80%	about 25%	5 - 3%
Sulphur Content	1.5 - 2%	1.5 - 2%	1.5 - 2%

Koessen

Goslsau

Rositz

Specific Gravity at 20° C	0.995 - 1.02	about 0.950	1.02 - 1.06
Water Content	1 - 2%	0.2%	maximum 3%
Viscosity at 20° C			
50° C	3 - 5 Engler	12 - 13 Engler 2.5 - 3 Engler	maximum 8 Engler
Flash Point open crucible	95 - 120° C	30° C	over + 75° C
closed crucible			
Freezing Point	+10 - 20° C	+3 - 15° C	maximum +15° C
Caloric Value maximum	9,700	9,800	9,500
minimum	9,500	9,300	9,400
Sulphur Content	1.3 - 2%	1.7 - 2%	1.5 - 2%
Conradson Test	3 - 5%	up to 3%	1 - 10%
Creosote Content	30 - 55%	about 15%	60 - 75%

-3-

5. The Group was informed of various difficulties in the distribution of heating oil because of the seasonal nature of consumption and because the DHZ KUM had at its disposal no tanks in which the oil could be stored.
6. The fixing of the freezing point would provide great difficulty, since the point could be improved only in cases in which a slight Diesel fuel proportion remained in the heating oil. Similar were the problems of the viscosity and the Conradson test results. It was announced that in the future the shipping industry would need free flowing (duennfluessig) heating oil with a freezing point of plus five degrees Centigrade; this, it was agreed by the Group, would present special difficulties. The situation, however, was not too serious since the shipping industry's demands would not become pressing for another two years.
7. The delegates to the Group were told that they should consider the problems of standardization as soon as possible despite current difficulties since positive decisions would have to be taken at the next meeting. Dr. Kersten of Koepsen proposed that two types of heating oil should be standardized, one for burners using less than 30 kilograms of oil per hour (fuer Kleinfuerungen), the second for those burners using 30 kilograms and over per hour (fuer Grossfuerungen). In order to make this proposal more practical, it was further suggested that tests be carried out VEB Projektierung und Anlagenbau Chemie, Gruppenkonstruktionsbuero G 7. Meissen, and in the Boiler Testing House (Versuchskesselhaus) of Kraftwerkbau Berlin using a heavy and a light heating oil; the experiment would determine the usability of both types of oil, as well as the practicality of the definitions as above.
8. The following criteria were established for the two types of fuel:

<u>Criteria</u>	<u>Unit</u>	<u>Kleinfuerung</u>	<u>Grossfuerung</u>
Specific gravity at 20°C	gm/cm ³	maximum 1.00	maximum 1.00
Water content	weight %	maximum 1.0	maximum 3.0
Flash point, open crucible	C°	minimum 75 maximum 145	minimum 75 maximum 145
Freezing point	C°	maximum +15	maximum +30
Viscosity at 50°C	Engler°	maximum 4.0	maximum 3.0
Minimum caloric value	cal/kg	minimum 3,500	minimum 8,000
Sulphur content	weight %	maximum 2.5	maximum 2.5
Conradson test	weight %	maximum 4.0	maximum 10.0
Ash content	weight %	maximum 0.4	maximum 0.4

-3-

SECRET

SECRET

25X1

-4-

9. Following the presentation of the above data, discussion dealt with several points, among them the degree of seriousness which should be attached to the high water content of the heating oil. Dr. Koehler stated that the high water-carrying capacity of the large creosote content caused the high water content. Oehme said that he would be willing to have the problem of establishing dissolved (gelosten) and suspended water studied at the Koethen Engineering School. Further, it was decided to institute inquiries among consumer firms to determine if difficulties in use would arise as a result of the high Conradson test. Dr. Fontaine was assigned to determine if it was necessary to achieve a higher flash point. The DHZ Kum is to determine how much of both types of fuel would be necessary in East Germany.

10. The following basic standards were established for fuel oil (Treiboel):

Specific gravity at 20°C	up to 0.9
Water content	not over 1%
Appearance	clear; free of mechanical impurities; color dark to opaque
Flash point in closed crucible	over 55°C
Conradson test	not over 1%
Beginning of the paraffin precipitation (BPA)	in winter (1 Oct-31 March): not over +0°C in summer: ---
Freezing point	Winter grade: not over -3°C Summer grade: not over -4°C
Boiling behavior (Siedeverhalten)	
Start of boiling at 350°C	under 220°C minimum 70 Vol %
Viscosity at 20°C	maximum 2.0 Engler°
Sulphur content	maximum 2.0 weight %
Ash content	maximum 0.03 weight %
Minimum caloric value	minimum 9,300

It was not decided which method would be used to produce the fuel oil, nor was the Cetane count established.

11. The following further assignments were parcelled out to members of the Group; they were to have been completed by the next scheduled meeting of the Group on 3 September 1953: 1/

-4-

SECRET